

WASHINGTON STATE DEPARTMENT OF HEALTH OFFICE OF FOOD SAFETY AND SHELLFISH PROGRAMS

ANNUAL GROWING AREA REVIEW

PREPARED BY: Donald Melvin, Environmental Specialist

AREA: Mackaye Harbor – also includes Barlow Bay

YEAR ENDING: December 31, 2005

CLASSIFICATION: Approved, Conditionally Approved

ACTIVITIES IN THE GROWING AREA IN 2005:

Samples were collected from each station in the growing area 6 times during the year using the systematic random sampling method. The “conditionally approved” area was closed from May 1 through September 30 in accordance with the management plan. The “conditionally approved” area was sampled 4 times when it was in open status. The occupied house boat in Barlow Bay was removed.

ANALYTICAL RESULTS OF WATER SAMPLES:

Table #1 summarizes the results of all samples collected from the area. This summary shows that all stations in the area pass the NSSP water quality standard. Station #70 is threatened due to elevated bacteria levels. Table #2 shows the results of samples collected from station 70.

CHANGE IN ACTUAL POLLUTION SOURCES THAT IMPACT THE GROWING AREA:

The live aboard boat that was moored in Barlow Bay was removed. Samples collected from station #70 show periodic high levels of fecal coliform, suggesting the presence of an intermittent pollution source.

CLASSIFICATION STATUS:

- ☐ Well within the classification standards
- ☐ Meets standards but some concerns
- ☒ Meets standards but threatened with a downgrade in classification
- ☐ Fails to meet classification standards

REMARKS AND RECOMMENDATIONS:

Table #1 shows that all stations meet the NSSP water quality standards for approved and conditionally approved classification and the area is correctly classified. High levels of bacteria recorded in samples collected from station #70 suggest the existence of an intermittent pollution source.

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MANAGEMENT PLAN EVALUATION – BRIEFLY DESCRIBE THE FOLLOWING COMPONENTS:

1. Have all parties involved complied with the conditions in the management plan Yes
2. Has reporting been adequate to manage the conditional area Yes
3. Does the area consistently meet approved area criteria when it is open for harvest Yes
4. Has a field inspection of critical pollution sources been conducted..... Yes

TABLE 1**SUMMARY OF MARINE WATER DATA (SRS)**Classification: **Approved,Conditionally Approved**From **10/19/2000** To **11/17/2005****FECAL COLIFORM ORGANISMS/100 ML**

Station Number	Classification	Number of Samples	Range	Geometric Mean	Est. 90th Percentile	Meets Std.
70	Approved	31	1.7 - 2,500.0	3.4	32.0	Yes
71	Approved	31	1.7 - 33.0	2.1	4.0	Yes
74	Approved	31	1.7 - 79.0	2.3	6.0	Yes
75	Approved	31	1.7 - 34.0	1.9	3.0	Yes
76	Approved	31	1.7 - 79.0	2.8	10.0	Yes
77	Approved	31	1.7 - 130.0	2.5	8.0	Yes
78	Approved	31	1.7 - 130.0	2.1	5.0	Yes
79	Approved	31	1.7 - 49.0	2.2	5.0	Yes
72	Conditionally Approved	30	1.7 - 49.0	2.8	9.0	Yes
73	Conditionally Approved	30	1.7 - 79.0	2.9	10.0	Yes

All tides information is presented

The standard for approved shellfish growing waters is fecal coliform geometric mean not greater than 14 organisms/100 ml and an estimate of the 90th percentile not greater than 43 organisms/100 ml. The above table shows bacteriological results in relation to program standards.

TABLE 2**SUMMARY OF SHELLFISH GROWING AREAS
WATER QUALITY STUDY RESULTS**Growing Area: **MACKAYE HARBOR**Sampling Station Number: **70**Classification: **Approved**

Sample Date	Sample Time	Tide	Fcoli/100ml	Temperature	Salinity
10/19/2000	09:13	Flood	2	10	30
02/22/2001	09:13	Ebb	1.7	7	32
04/25/2001	09:13	Ebb	1.7	10	32
06/27/2001	09:01	Flood	79	12	30
08/29/2001	10:37	Flood	1.7	13	31
10/31/2001	08:57	Ebb	1.7	10	
12/18/2001	11:03	Ebb	1.7	7	28
02/13/2002	09:19	Ebb	1.7	8	30
04/24/2002	09:18	Ebb	1.7	10	30
06/19/2002	09:19	Flood	2	11	30
08/07/2002	09:15	Ebb	1.7	13	30
10/29/2002	10:35	Flood	6.8	10	30
12/18/2002	09:04	Ebb	2	9	30
02/26/2003	09:00	Flood	1.7	7	30
04/30/2003	09:10	Ebb	1.7	9	32
05/29/2003	09:19	Ebb	1.7	11	30
08/06/2003	09:23	Flood	2500	12	30
12/16/2003	11:17	Ebb	49	7	28
12/18/2003	09:28	Flood	1.7	7	28
02/19/2004	08:51	Ebb	1.7	7	30
03/31/2004	09:10	Flood	1.7	8	30
05/20/2004	08:58	Ebb	1.7	12	30
07/28/2004	09:21	Flood	4.5	14	30
09/29/2004	09:52	Ebb	1.7	11	30
12/02/2004	09:31	Flood	240	8	30
02/03/2005	09:34	Ebb	1.7	7	30
04/28/2005	09:28	Ebb	1.7	10	32
06/08/2005	09:44	Ebb	1.7	11	30
08/18/2005	10:25	Flood	1.7	13	32
10/05/2005	09:33	Ebb	1.7	10	32
11/17/2005	09:31	Ebb	1.7	8	32

Number of Samples: 31

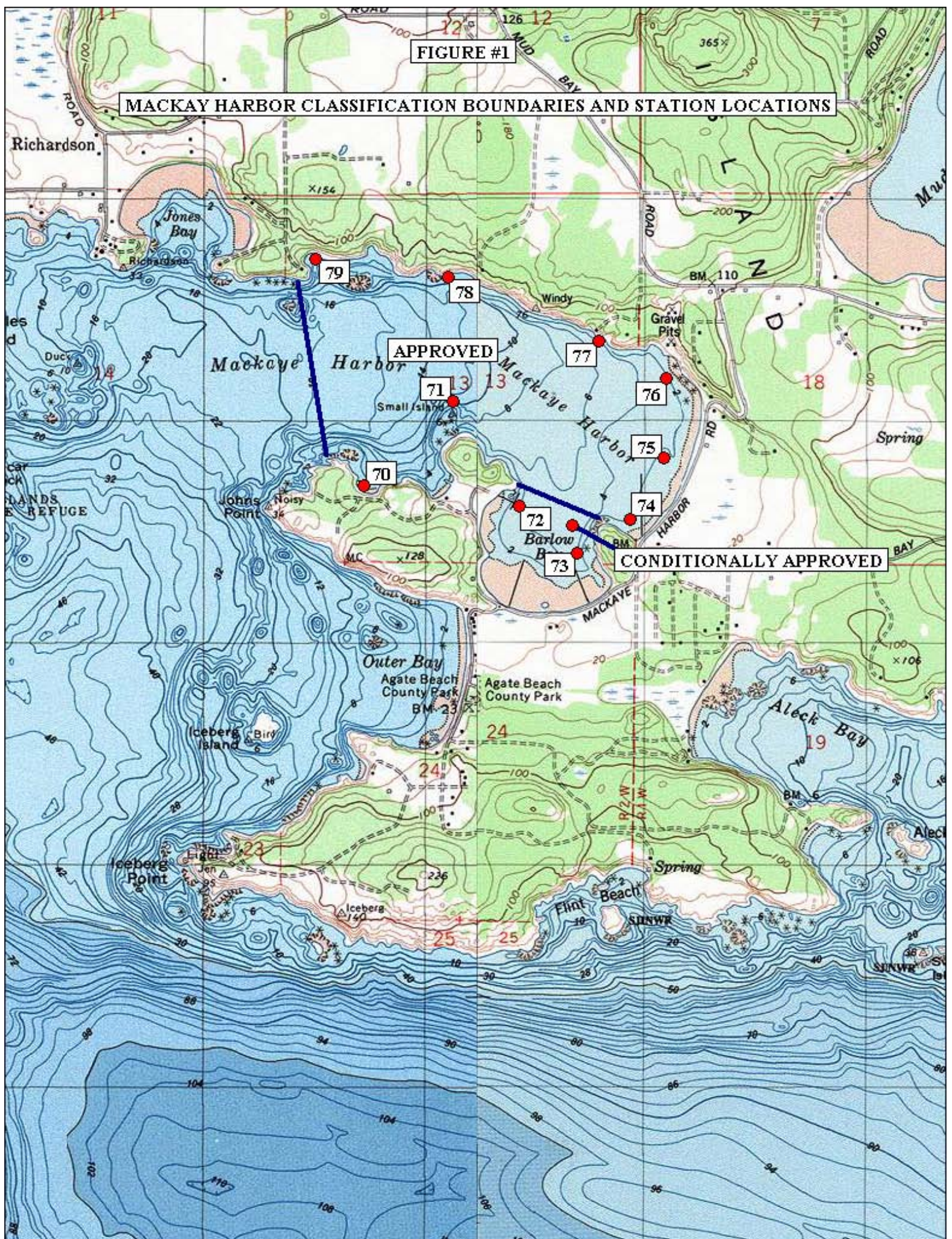
Geometric Mean: 3.4

Range: 1.7 - 2500

Estimated 90th Percentile: 32

FIGURE #1

MACKAY HARBOR CLASSIFICATION BOUNDARIES AND STATION LOCATIONS



Most recent five-year trend in fecal coliform pollution.

